



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,827	04/14/2004	Alan P. Cohen	107117	5636

23490 7590 11/20/2006

HONEY WELL INTELLECTUAL PROPERTY INC
PATENT SERVICES
101 COLUMBIA DRIVE
P O BOX 2245 MAIL STOP AB/2B
MORRISTOWN, NJ 07962

EXAMINER

HOPKINS, ROBERT A

ART UNIT PAPER NUMBER

1724

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/823,827	Applicant(s) COHEN ET AL.	
	Examiner Robert A. Hopkins	Art Unit 1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-14 is/are allowed.
- 6) ☒ Claim(s) 1,4,6 and 9 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,7,8 and 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4-14-04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,4 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dinnage et al(6557365).

Dinnage et al teaches a system comprising a source of fresh air (A) communicating with a desiccant wheel(60), wherein the desiccant wheel comprises an axis of rotation, a radius perpendicular to the axis of rotation extending from the axis of rotation to an outer circumference, and two sides , and wherein the two sides are divided into at least two sectors, and wherein the sectors comprise at least an adsorption sector and a regeneration sector, wherein the fresh air passes through the adsorption sector to be dried and wherein the system further comprises an air compressor(50) wherein the dried fresh air is compressed to a desired level, and a source of heated gas(E) sent to the regeneration sector wherein water is removed from the desiccant wheel. Dinnage et al further teaches wherein water from the air flow is removed by a condenser prior to removal by the desiccant wheel.

Art Unit: 1724

Claims 6,9 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dinnage et al(6557365).

Dinnage et al teaches a dryer comprising a desiccant wheel comprising an axis of rotation, a radius perpendicular to the axis of rotation extending from the axis of rotation to an outer circumference, and two faces, wherein the two faces are each divided into at least two sectors, the sectors comprising an adsorption sector and a regeneration sector, wherein the adsorption sector is contacted with a moist flow of air(A) that passes through the adsorption sector in a direction parallel to the axis of rotation, and wherein the adsorption sector comprises an adsorbent material to remove water from the air to produce dry air, and a source of heated air in communication with the regeneration sector to remove water from the regeneration sector of the desiccant wheel, wherein the dry air passes to an air compressor(50) that compresses the air to a desired pressure level. Dinnage et al further teaches wherein a portion of the water is removed from the flow of air by a condenser(52) prior to further drying of the flow of air by a desiccant wheel.

Allowable Subject Matter

Claims 2,3,5,7,8,10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2,7 recite "wherein said desiccant wheel further comprises a cooling sector , wherein a flow of air that is cooler than the heated air is in communication with the cooling sector". Dinnage et al fails to teach a cooling sector. It would not have been

Art Unit: 1724

obvious to someone of ordinary skill in the art at the time of the invention to provide a cooling sector , wherein a flow of air that is cooler than the heated air is in communication with the cooling sector because Dinnage et al does not suggest such a modification.

Claim 3,8 recite "wherein said regeneration air is heated by the compressed air". Dinnage et al fails to teach a regeneration air which is heated by compressed air. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide regeneration air which is heated by compressed air because Dinnage et al does not suggest such a modification.

Claim 5,10 recite "wherein a portion of said dried air is diverted to cool a cooling sector of said desiccant wheel". Dinnage et al fails to teach a portion of the dried air which is diverted to cool a cooling sector of the desiccant wheel. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a portion of the dried air which is diverted to cool a cooling sector of the desiccant wheel because Dinnage et al does not suggest such a modification.

Claims 11-14 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 11 recites "a process for producing dry compressed air for a vehicle's air brakes comprising: a) sending a flow of air to a vehicle air inlet; b) then sending said flow of air through an adsorption sector of a desiccant wheel to produce a dry flow of air; c) then sending said dry flow of air to an air compressor to produce a supply of

Art Unit: 1724

compressed air; and d) storing said supply of compressed air for use in applying said vehicle's air brakes. Thomas(6391098) teaches a desiccant dryer for a vehicle air brake system, however tge desiccant dryer is a stationary desiccant, and not a desiccant wheel. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to substitute a desiccant wheel for the stationary desiccant because Thomas does not suggest such a modifiication. Claims 12-14 depend on claim 11 and hence are also allowed.

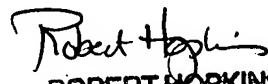
Art Unit: 1724

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rah
November 14, 2006


ROBERT HOPKINS
PRIMARY EXAMINER
